

## Claims

What is claimed is:

- 5 1. A monitor comprising:
- a display panel for displaying video images;
  - a displaying circuit for transforming video signals transmitted from a computer into a video image and displaying the video image on the display panel;
  - 10 a connector electrically connected to an input port of the displaying circuit for receiving the video signals transmitted from the computer; and
  - a self testing circuit electrically connected to the input port of the displaying circuit, the self testing circuit comprising:
    - 15 a testing signal generator for generating a testing signal to test the monitor;
    - a switch circuit electrically connected between an output port of the testing signal generator and the input port of the displaying circuit, for controlling output of the testing signal; and
    - 20 a detecting circuit electrically connected to a controlling port of the switch circuit for detecting whether signals are transmitted from the computer so as to control on/off states of the switch circuit;
  - 25 wherein when the detecting circuit detects the video signals transmitted from the computer, the detecting circuit switches off the switch circuit so as to avoid the testing signal generated from the testing signal generator being transmitted to the input port of the displaying circuit, and when no video signals transmitted from the
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computer are detected, the detecting circuit switches on the switch circuit so as to allow the testing signal generated from the testing signal generator to be transmitted to the displaying circuit.

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2. The monitor of claim 1 wherein the connector is a 15 DSUB connector.

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3. The monitor of claim 1 wherein the testing signal is generated from a H-Blank signal by the testing signal generator and is transmitted to the displaying circuit, the displaying circuit transforms the testing signal into a testing image and displays the testing image on the display panel.

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4. A self testing circuit installed in a monitor for performing self-testing of the monitor, the monitor comprising a display panel for displaying video images, a displaying circuit for transforming video signals transmitted from a computer into a video image and displaying the video image on the display panel, and a connector electrically connected to an input port of the displaying circuit for receiving the video signals transmitted from the computer, the self testing circuit being electrically connected to the input port of the displaying circuit and comprising:

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a testing signal generator for generating a testing signal to test the monitor;

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a switch circuit electrically connected between an output port of the testing signal generator and the input port of the displaying circuit, for controlling output of the testing signal; and

a detecting circuit electrically connected to a  
controlling port of the switch circuit for controlling  
on/off states of the switch circuit;

wherein when the detecting circuit detects that the monitor  
is connected with the computer, the detecting circuit  
switches off the switch circuit so as to avoid the testing  
signal generated from the testing signal generator being  
transmitted to the input port of the displaying circuit,  
and when the detecting circuit detects that the monitor  
is not connected with the computer, the detecting circuit  
switches on the switch circuit so as to allow the testing  
signal generated from the testing signal generator to be  
transmitted to the displaying circuit.

5. The self testing circuit of claim 4 wherein the video signals  
transmitted from the computer are IBM VGA signals including  
an EPS1 sub signal, and the connector includes a  
corresponding EPS1 pin for receiving the EPS1 sub signal,  
and when detecting that the monitor is connected with the  
computer, the EPS1 pin is grounded and the detecting  
circuit switches off the switch circuit, and when detecting  
that the monitor is not connected with the computer, the  
EPS1 pin is floated and the detecting circuit switches on  
the switch circuit so as to allow the testing signal  
generated from the testing signal generator to be  
transmitted to the displaying circuit.

6. The self testing circuit of claim 4 wherein the controlling  
port of the switch circuit is a transistor, and by  
controlling on/off states of the transistor, the detecting  
circuit allows the testing signal to be transmitted to the  
input port of the displaying circuit or not.

7. The self testing circuit of claim 4 wherein the testing  
signal is generated from a H-Blank signal by the testing  
signal generator and is transmitted to the displaying  
circuit, the displaying circuit transforms the testing  
5 signal into a testing image and displays the testing image  
on the display panel.
8. A simulation method for simulating video signals to  
generate a video image with an H-BLANK signal, the monitor  
10 comprising a display panel for displaying video images,  
and a displaying circuit for sequentially transforming  
video signals transmitted from a computer into  
corresponding video scanning lines, the displaying circuit  
deciding the timing of displaying a video scanning line  
15 on the display panel according to an H-BLANK signal so as  
to form a corresponding video image out of a plurality of  
video scanning lines, the simulation method comprising  
steps of:  
detecting whether the monitor is connected with the  
20 computer; and  
if the monitor is not connected with the computer, then  
adjusting the amplitude of the H-BLANK signal and  
transmitting the H-BLANK signal to the displaying  
circuit so as to simulate video signals from the computer  
25 and generate corresponding video images.
9. The simulation method of claim 8 wherein the monitor further  
comprises a switch circuit and the H-BLANK signal is  
transmitted to an input port of the displaying circuit via  
30 the switch circuit, and when detecting that the monitor  
is connected with the computer, the switch circuit will  
be switched off to avoid the H-BLANK signal from being

transmitted to the input port of the displaying circuit,  
and when detecting that the monitor is not connected with  
the computer, the switch circuit will be switched on so  
that the H-BLANK can be transmitted to the input port of  
5 the displaying circuit.

10. The method of claim 8 wherein the waveform of the H-BLANK  
signal is substantially similar to the waveform of a  
full-white video signal so that when the H-BLANK signal  
10 is transmitted to the input port of the displaying circuit,  
the display panel displays a full-white video image.

11. A simulation method for simulating video signals to  
generate a video image with an H-BLANK signal, the monitor  
15 comprising a display panel for displaying video images,  
and a displaying circuit for sequentially transforming  
video signals transmitted from a computer into  
corresponding video scanning lines, the displaying circuit  
deciding the timing of displaying a video scanning line  
20 on the display panel according to an H-BLANK signal so as  
to form a corresponding video image out of a plurality of  
video scanning lines, the simulation method comprising  
steps of:

detecting whether video signals are transmitted from the  
25 computer; and  
if no signals transmitted from the computer are detected,  
then adjusting the amplitude of the H-BLANK signal and  
transmitting the H-BLANK signal to the displaying  
circuit so as to simulate video signals from the computer  
30 and generate corresponding video images.

12. The simulation method of claim 11 wherein the monitor

further comprises a switch circuit and the H-BLANK signal is transmitted to an input port of the displaying circuit via the switch circuit, and when signals transmitted from the computer are detected, the switch circuit will be  
5 switched off to avoid the H-BLANK signal from being transmitted to the input port of the displaying circuit, and when no signals transmitted from the computer are detected, the switch circuit will be switched on so that the H-BLANK can be transmitted to the input port of the  
10 displaying circuit.

13. The method of claim 11 wherein the waveform of the H-BLANK signal is substantially similar to the waveform of a full-white video signal so that when the H-BLANK signal  
15 is transmitted to the input port of the displaying circuit, the display panel displays a full-white video image.